

Customer No.: 31561
Application No.: 10/709,332
Docket No.: 12889-US-PA

To Claims:

Please amend claims as follows.

Claim1. (currently amended) A cold cathode fluorescent flat lamp suitable for use as a backlight source of a liquid crystal display (LCD), comprising:

a cavity, having a light exit plane;

a discharge gas, disposed inside the cavity;

a plurality of electrodes, disposed inside the cavity or outside the cavity;

a fluorescence layer, disposed on an inner wall of the cavity; and

a first light control layer, disposed overlapping portions of the fluorescence layer corresponding to the light exit plane of such that intensity of light exiting from the first control layer is substantially same as that of light exiting from other portions of the fluorescence not overlapped by the first control layer.

Claim2. (currently amended) The cold cathode fluorescent flat lamp of claim 1, wherein the cavity comprises:

a first substrate;

a second substrate, disposed over the first substrate; and

a side bar, disposed between the first substrate and the second substrate and connected ~~to an edge~~ to an edge of the first substrate and an edge of the second substrate.

Claim3. (original) The cold cathode fluorescent flat lamp of claim 1, wherein the discharge gas comprises an inert gas.

Claim4. (original) The cold cathode fluorescent flat lamp of claim 3, wherein the inert gas comprises xenon (Xe), neon (Ne) or argon (Ar).

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Claim5. (original) The cold cathode fluorescent flat lamp of claim 1, wherein each of the electrodes comprise a plurality of protrusions.

Claim6. (currently amended) The cold cathode fluorescent flat lamp of claim 5, wherein the cavity is divided by the ~~electrodes into~~ electrodes into at least one sub-cavity, and the sub-cavity is divided by the protrusions of the ~~electrodes into~~ electrodes into a plurality of first light emitting areas and a plurality of second light emitting areas disposed between the first light emitting areas.

Claim7. (original) The cold cathode fluorescent flat lamp of claim 6, wherein the first light control layer is disposed over the fluorescence layer corresponding to the first light emitting area.

Claim8. (original) The cold cathode fluorescent flat lamp of claim 1, wherein a material of the first light control layer comprises a fluorescence material.

Claim9. (original) The cold cathode fluorescent flat lamp of claim 1, wherein a material of the first light control layer and a material of the fluorescence layer are same.

Claim10. (original) The cold cathode fluorescent flat lamp of claim 1, wherein the first light control layer comprises single patterned film layer or multi-layer stacked patterned film layer.

Claim11. (currently amended) The cold cathode fluorescent flat lamp of claim 1 ~~and~~ 6, further comprising:

a second light control layer, disposed over the fluorescence layer corresponding to the second light emitting area.

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Claim12. (original) The cold cathode fluorescent flat lamp of claim 11, wherein a material of the second light control layer comprises fluorescence material.

Claim13. (original) The cold cathode fluorescent flat lamp of claim 11, wherein a material of the second light control layer and a material of the fluorescence layer are same.

Claim14. (original) The cold cathode fluorescent flat lamp of claim 11, wherein the second light control layer comprises single patterned film layer or multi-layer stacked patterned film layer.

Claim15. (currently amended) A cold cathode fluorescent flat lamp suitable for use as a backlight source of a liquid crystal display (LCD), comprising:

a cavity, having a light exit plane and a bottom surface, wherein the light exit plane is opposite to the bottom surface;

a discharge gas, disposed inside the cavity;

a plurality of electrodes, disposed inside the cavity or outside the cavity;

a fluorescence layer, disposed on an inner wall of the cavity; and

a ~~second~~ light control layer, disposed overlapping portions of the fluorescence layer ~~on and~~ corresponding to the bottom surface such that intensity of light exiting from the portions of the fluorescence layer overlapped by the light control layer and the light control layer is substantially same as that of light exiting from other portions of the fluorescence layer not overlapped by the light control layer.

Claim16. (currently amended) The cold cathode fluorescent flat lamp of claim 15, wherein the cavity comprising:

a first substrate;

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a second substrate, disposed over the first substrate ~~top~~; and
a side bar, disposed between the first substrate and the second substrate between
and connected to an edge of the first substrate and an edge of the second substrate.

Claim17. (original) The cold cathode fluorescent flat lamp of claim 15, wherein
the discharge gas comprises inert gas.

Claim18. (original) The cold cathode fluorescent flat lamp of claim 15, wherein
the inert gas comprises xenon (Xe), neon (Ne) or argon (Ar).

Claim19. (original) The cold cathode fluorescent flat lamp of claim 15, wherein
each of the electrodes comprises a plurality of protrusions.

Claim20. (currently amended) The cold cathode fluorescent flat lamp of claim 19,
wherein the cavity is divided by the ~~electrodes into~~ electrodes into at least one sub-cavity,
and the sub-cavity is divided by the protrusions of the ~~electrodes into~~ electrodes into a
plurality of first light emitting areas and a plurality of second light emitting areas
disposed between the first light emitting areas.

Claim21. (currently amended) The cold cathode fluorescent flat lamp of claim 20,
wherein the ~~second~~ light control layer is disposed over the fluorescence layer
corresponding to the second light emitting area.

Claim22. (currently amended) The cold cathode fluorescent flat lamp of claim 15,
wherein a material of the ~~second~~ light control layer comprises a fluorescence material.

Claim23. (currently amended) The cold cathode fluorescent flat lamp of claim 15,
wherein a material of the ~~second~~ light control layer and a material of the fluorescence
layer are same.

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Claim24. (currently amended) The cold cathode fluorescent flat lamp of claim 15, wherein the ~~second~~ light control layer comprises single patterned film layer or multi-layer stacked patterned film layer.

Claim25. (new) A cold cathode fluorescent flat lamp suitable for use as a backlight source of a liquid crystal display (LCD), comprising:

a cavity, having a first substrate, a second substrate disposed over the first substrate, a light exit plane and a bottom surface, wherein the light exit plane is opposite to the bottom surface;

a discharge gas, disposed inside the cavity;

a plurality of electrodes, disposed inside the cavity or outside the cavity, comprising a plurality of protrusions, wherein the electrodes divide the cavity into at least one sub-cavity, and the sub-cavity is divided by the protrusions of the electrodes into a plurality of first light emitting areas and a plurality of second light emitting areas disposed between the first light emitting areas;

a fluorescence layer, disposed on an inner wall of the cavity; and

a light control layer, disposed over the fluorescence layer on the first substrate, positioned corresponding to the plurality of first light emitting areas to render intensity of light exiting therefrom substantially same as that of light emitted from the second light emitting areas.

Claim26. (new) A cold cathode fluorescent flat lamp suitable for use as a backlight source of a liquid crystal display (LCD), comprising:

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a cavity, having a first substrate, a second substrate disposed over the first substrate, a light exit plane and a bottom surface, wherein the light exit plane is opposite to the bottom surface;

a discharge gas, disposed inside the cavity;

a plurality of electrodes, disposed inside the cavity or outside the cavity, comprising a plurality of protrusions, wherein the electrodes divide the cavity into at least one sub-cavity, and the sub-cavity is divided by the protrusions of the electrodes into a plurality of first light emitting areas and a plurality of second light emitting areas disposed between the first light emitting areas;

a fluorescence layer, disposed on an inner wall of the cavity; and

a light control layer, disposed over the fluorescence layer on the second substrate, positioned corresponding to the plurality of second light emitting areas to render intensity of light exiting therefrom substantially same as that of light emitted from the first light emitting areas.